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2676	

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Please find below and/or attached an Office communication concerning this application or proceeding.

PTO 90C (Rev 10/03)

	Application No.	Applicant(s)
Office Action Summary	09/684,328	OHARA ET AL.
	Examiner	Art Unit	
	Joni Hsu	2676	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on _9/24/04_
2a) ☒ This action is **FINAL.**   2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) _1-25_ is/are pending in the application.
     4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) _1-25_ is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
     a) ☒ All   b) ☐ Some *   c) ☐ None of:
       1. ☐ Certified copies of the priority documents have been received.
       2. ☐ Certified copies of the priority documents have been received in Application No. _____.
       3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
     * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1.   Applicant's arguments filed September 24, 2004 have been fully considered but they are

not persuasive.

2.   With regard to Claim 1, Applicant argues that the claimed invention solves different

problems than those solved by Yutaka and Peaslee, and hence claims fundamentally different

methods with different apparatuses than Yutaka and Peaslee (page 11, lines 6-8). For example,

the claimed merging operations of the claimed invention are different from the merging

operations of Yutaka. That is, Yutaka defines "merging operations" as a composition of video

frames from a sequence of control and drawing instructions (page 13, lines 1-3). In the claimed

invention, on the other hand, "merging operations" are defined as a generation of drawing

instructions to be transferred from the computer to the display apparatus by combining the effect

of multiple drawing instructions that affect the same area in a short period of time on the frame

buffer. In other words, Yutaka transfers the entire video frame for each video frame from the

computer to the display apparatus, regardless of the result of the merging operations. The

claimed invention, on the other hand, transfers only updated areas on the frame memory in the

form of a drawing instruction, thereby reducing the amount of image data to be transferred from

the computer to the display apparatus (page 13, lines 12-20). Applicant submits that Yutaka

does not disclose or suggest a "scheduler for merging a plurality of said transfer data meeting a

certain requirement" (page 14, lines 11-14). Yutaka does not include a device or method to

reduce the amount of data to be transferred over the communication medium (page 15, lines 4-5) or to reduce the effect of communication errors over a communication medium (page 15, lines 8-9). Peaslee does not teach a scheduler that generates a drawing instruction by combining the results of multiple drawings instructions which update the same area, in order to reduce the amount of data to be transmitted from a computer to a display apparatus, or translates drawing instructions to remove interdependency (page 15, line 10-page 16, line 3).

In reply, the Examiner disagrees. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., "merging operations" are defined as a generation of drawing instructions to be transferred from the computer to the display apparatus by combining the effect of multiple drawing instructions that affect the same area in a short period of time on the frame buffer; the apparatus transfers only updated areas on the frame memory in the form of a drawing instruction, thereby reducing the amount of image data to be transferred from the computer to the display apparatus; a device or method to reduce the amount of data to be transferred over the communication medium or reduce the effect of communication errors over a communication medium; the scheduler generates a drawing instruction by combining the results of multiple drawings instructions which update the same area, in order to reduce the amount of data to be transmitted from a computer to a display apparatus or translates drawing instructions to remove the interdependency) are not recited in the rejected Claim 1. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

With regard to what is recited in Claim 1,Yutaka discloses a data transferring apparatus

for transferring transfer packets each including one or more transfer data as objectives of transfer

from a first apparatus (42, 43, 45, Figure 1) to a second apparatus (61), each transfer data

including commands indicated processes against a preliminarily assigned area, the first apparatus

including a scheduler for merging a plurality of the transfer data (43; Col. 6, lines 65-67; Col. 7,

lines 1-13), and a communication controller (42) for generating transfer packets each including at

least one of one or more transfer data whose amount is within a certain predetermined range

(Col. 2, line 15) and one or more merged transfer data (Col.3, lines 1-8, 25-28), the

communication controller transferring the generated transfer packets to the second apparatus (45;

Col. 3, lines 12-14).

Yutaka, however, is silent as to whether the plurality of transfer data merged by the

scheduler is merged by meeting a certain requirement. According to the disclosure of this

application, the certain requirement that is met is that the scheduler merges the data in

accordance with the mutual dependency of the instructions among themselves (Page 15, lines 13-

18). However, Peaslee discloses a scheduler, which Peaslee calls a cogenerator (10, Figure 1),

for merging a plurality of transfer data (Col. 3, lines 19-23). The cogenerator has a multiprocess

scheduler (12, Figure 2; Col. 5, lines 5-12) that prevents the subsystems from using the same

output at the same time, which means that the data must be merged in such a way that that they

are not depending on the same output, which means that the data is merged in accordance with

the mutual dependency of the instructions among themselves (Col. 5, lines 50-59).

Therefore,Yutaka and Peaslee disclose Claim 1 as it is recited.

3.   With regard to Claim 2, Applicant argues that the specification discloses a light diffusing

means including, among other things, a scheduler for judging whether an offset can be performed

by merging an increment of data volume caused by a change of drawing commands. Applicant

submits that, for somewhat similar reasons as those set forth above, Yutaka and Peaslee, either

along or in combination, do not disclose or suggest any structure, equivalents thereof, or identity

of function necessary for the claimed means for merging (page 16, line 11-page 17, line 5).

In reply, the Examiner disagrees. In response to applicant's argument that the references

fail to show certain features of applicant's invention, it is noted that the features upon which

applicant relies (i.e., a light diffusing means) are not recited in the rejected claim(s). Although

the claims are interpreted in light of the specification, limitations from the specification are not

read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Claim 2 is the same as Claim 1, except that Claim 2 does not have specific names for the

scheduler and the communication controller, so Yutaka and Peaslee also disclose Claim 2. If

both the drawing device section (61, Figure 1) and the packet buffer for setting a drawing

instruction sequence, which is part of the main memory (43; Col. 7, lines 1-13) are taken to be

the scheduler that is part of the means for merging (43, 61), and the image monitor device (65) is

taken to be the second apparatus instead, then Yutaka discloses that the means for merging

comprises a scheduler (43, 61) for judging whether an offset can be performed by merging an

increment of data volume (Col. 3, lines 25-28) caused by a change of drawing commands (Col.

8, lines 54-62; Col. 9, lines 1-3).

4.   With regard to Claim 7, Applicant argues that Yutaka and Peaslee also do not disclose or

suggest the exemplary method as defined, for somewhat similar reasons as those set forth above

with respect to independent Claims 1 and 2 (page 17, lines 6-10).

        In reply, the Examiner disagrees. Claim 7 is the same as Claim 2, except that Claim 7 is

for a method instead of an apparatus. Yutaka discloses both the data transferring method (Col. 2,

lines 46-62) and its apparatus. The details of the method can be seen in Figure 11, steps 101-

109, and are described in Col. 11, lines 31-67; Col. 12, lines 1-37. Peaslee also discloses both

the apparatus and method. Figure 3 illustrates the method of how the multiprocess scheduler

operates and Figure 4 illustrates the method of the task control functions. Figures 3 and 4 are

described in Col. 5, line 48 to Col. 8, line 6. Therefore, Yutaka and Peaslee also disclose Claim

7.

5.   With regard to Claim 11, Applicant argues that Yutaka and Peaslee also do not disclose

or suggest the medium for mediating a program for transferring transfer packets according to the

claimed invention as defined, for somewhat similar reasons as those set forth above with respect

to independent Claims 1 and 2 (page 17, lines 6-10).

        In reply, the Examiner disagrees. Claim 11 is the same as Claim 7, except that Claim 11

is for a medium for mediating a program to be executed on a computer. The method (101-109,

Figure 11; Col. 11, lines 31-67; Col. 12) disclosed by Yutaka is a program that is executed on a

computer (42, Figure 1; Col. 11, lines 31-34), so Yutaka discloses a medium for mediating this

program to be executed on a computer. Peaslee discloses a programmable scheduler (Col. 1,

lines 31-35), so the method (Figures 3 and 4; Col. 5, line 48- Col. 8, line 6) is a program.

Peaslee also suggests that the program is executed on a computer (Col. 1, lines 48-53), so

Peaslee discloses a medium for mediating a program to be executed on a computer. Therefore,

Yutaka and Peaslee also disclose Claim 11.

6.   Applicant argues that dependent Claims 3-6, 8-10, and 12-14 also a patentable over

Yutaka and Peaslee by virtue of their dependency from independent Claims 2, 7, and 11,

repectively, as well as for the additional features recited therein (page 17, lines 22-24).

        In reply, the Examiner disagrees. Claims 2, 7, and 11 are rejected for the reasons given

above, and Claims 3-6, 8-10, and 12-14 are further rejected for the reasons given below.

7.   Applicant argues that the new Claims 15-25 are allowable (page 18, lines 10-15).

        In reply, the Examiner disagrees. Claims 15-25 are rejected for the reasons given below.

8.   Applicant requested that the Examiner acknowledge receipt of and approve the formal

drawings filed on October 10, 2000 (page 18, lines 17-18).

        The Examiner acknowledges receipt of and approves the formal drawings filed on

October 10, 2000.

Claim Rejections - 35 USC § 103

9.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or
> described as set forth in section 102 of this title, if the differences between the subject
> matter sought to be patented and the prior art are such that the subject matter as a whole
> would have been obvious at the time the invention was made to a person having ordinary
> skill in the art to which said subject matter pertains. Patentability shall not be negatived
> by the manner in which the invention was made.

10.   The factual inquiries set forth in *Graham* v. *John Deere Co.*, 383 U.S. 1, 148 USPQ 459

(1966), that are applied for establishing a background for determining obviousness under 35

U.S.C. 103(a) are summarized as follows:

1.   Determining the scope and contents of the prior art.
2.   Ascertaining the differences between the prior art and the claims at issue.
3.   Resolving the level of ordinary skill in the pertinent art.
4.   Considering objective evidence present in the application indicating obviousness
       or nonobviousness.

11.   Claims 1-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yutaka (US

5,664,163) in view of Peaslee (US 5,265,203).

12.   With regard to Claim 1, Yutaka discloses a data transferring apparatus for transferring

transfer packets each including one or more transfer data as objectives of transfer from a first

apparatus (42, 43, 45, Figure 1) to a second apparatus (61), each transfer data including

commands indicated processes against a preliminarily assigned area, the first apparatus including

a scheduler for merging a plurality of the transfer data (43; Col. 6, lines 65-67; Col. 7, lines 1-

13), and a communication controller (42) for generating transfer packets each including at least

one of one or more transfer data whose amount is within a certain predetermined range (Col. 2,

line 15) and one or more merged transfer data (Col.3, lines 1-8, 25-28), the communication

controller transferring the generated transfer packets to the second apparatus (45; Col. 3, lines

12-14).

Yutaka, however, is silent as to whether the plurality of transfer data merged by the

scheduler is merged by meeting a certain requirement. According to the disclosure of this

application, the certain requirement that is met is that the scheduler merges the data in

accordance with the mutual dependency of the instructions among themselves (Page 15, lines 13-

18). However, Peaslee discloses a scheduler, which Peaslee calls a cogenerator (10, Figure 1),

for merging a plurality of transfer data (Col. 3, lines 19-23). The cogenerator has a multiprocess

scheduler (12, Figure 2; Col. 5, lines 5-12) that prevents the subsystems from using the same

output at the same time, which means that the data must be merged in such a way that that they

are not depending on the same output, which means that the data is merged in accordance with

the mutual dependency of the instructions among themselves (Col. 5, lines 50-59).

It would have been obvious to one of ordinary skill in this art at the time of invention by

applicant to modify the device of Yutaka so that the scheduler merges the data in accordance

with the mutual dependency of the instructions among themselves as suggested by Peaslee

because Peaslee suggests that the data that are dependent on each other cannot be transferred at

the same time (Col. 5, lines 54-59).

13.   With regard to Claim 2, Claim 2 is the same as Claim 1, except that Claim 2 does not

have specific names for the scheduler and the communication controller, so Yutaka and Peaslee

also disclose Claim 2.

14.   With regard to Claim 3, if both the drawing device section (61, Figure 1) and the packet

buffer for setting a drawing instruction sequence, which is part of the main memory (43; Col. 7,

lines 1-13) are taken to be the scheduler that is part of the means for merging (43, 61), and the

image monitor device (65) is taken to be the second apparatus instead, then Yutaka discloses that

the means for merging comprises a scheduler (43, 61) for judging whether an offset can be

performed by merging an increment of data volume (Col. 3, lines 25-28) caused by a change of

drawing commands (Col. 8, lines 54-62; Col. 9, lines 1-3).

15.   With regard to Claim 4, Yutaka discloses that if the scheduler (43, 61, Figure 1) judges

that the offset is possible, then the scheduler changes the drawing commands (Col. 8, lines 54-

62; Col. 9, lines 1-3).

16.   With regard to Claim 5, Yutaka discloses that the means for generating comprises a

communication controller which generates the transfer packets which contain merged drawing

commands which are more than a predetermined data volume in quantity (Col. 2, lines 32-33;

Col. 4, lines 5-8).

17.   With regard to Claim 6, Yutaka discloses that the first apparatus comprises a computer

(Col. 1, lines 9-14) and the second apparatus comprises a display apparatus (65, Figure 1).

18.   With regard to Claims 7-10, Claims 7-10 are the same as Claims 2-4 and 6, except that

Claims 7-10 are for a method instead of an apparatus. Yutaka discloses both the data

transferring method (Col. 2, lines 46-62) and its apparatus. The details of the method can be

seen in Figure 11, steps 101-109, and are described in Col. 11, lines 31-67; Col. 12, lines 1-37.

The details for the method for changing the drawing commands if the judging judges that the

offset is possible, with regard to Claim 9, can be seen in Figure 4C; Col. 9, lines 38-51.

Peaslee also discloses both the apparatus and method. Figure 3 illustrates the method of

how the multiprocess scheduler operates and Figure 4 illustrates the method of the task control

functions. Figures 3 and 4 are described in Col. 5, line 48 to Col. 8, line 6.

19.   With regard to Claims 11-14, Claims 11-14 are the same as Claims 7-10, except that

Claims 11-14 are for a medium for mediating a program to be executed on a computer. The

method (101-109, Figure 11; Col. 11, lines 31-67; Col. 12) disclosed by Yutaka is a program that

is executed on a computer (42, Figure 1; Col. 11, lines 31-34), so Yutaka discloses a medium for

mediating this program to be executed on a computer.

Peaslee discloses a programmable scheduler (Col. 1, lines 31-35), so the method (Figures

3 and 4; Col. 5, line 48- Col. 8, line 6) is a program. Peaslee also suggests that the program is

executed on a computer (Col. 1, lines 48-53), so Peaslee discloses a medium for mediating a

program to be executed on a computer.

20.   Claims 15-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yutaka (US

5,664,163) in view of Peaslee (US 5,265,203), further in view of Zhao (US006405267B1).

21.   With regard to Claim 15, Yutaka and Peaslee are relied upon for the teachings as

discussed above relative to Claim 1.

        However, Yutaka and Peaslee do not teach that the scheduler generates a plurality of

drawing instructions to be transferred from the first apparatus to the second apparatus by

combining an effect of a plurality of drawing instructions which affect a same area in a

predetermined short period of time on a frame buffer. However, Zhao describes generating a

plurality of drawing instructions to be transferred from the first apparatus (CPU) to the second

apparatus (graphics device) (Col. 1, lines 21-30) by ordering the drawing instructions (Col. 2,

lines 43-59) by putting the drawing instructions into slots in the storage buffers, the slot selected

based on portions of the address information associated with the data item. The data in the

storage buffers is then provided to a command interpreter for further processing by the graphics

device (Col. 3, lines 21-35). Therefore, Zhao discloses combining an effect of a plurality of

drawing instructions which affect a same area. The storage buffers receive these drawing

instructions from the FIFO, which outputs the drawing instructions at graphics device clock rate

(Col. 3, lines 21-35). This means that the drawing instructions that are combined which affect a

same area are effective for a predetermined short period of time on a frame buffer, the

predetermined short period of time being in accordance with the graphics device clock rate.

        It would have been obvious to one of ordinary skill in this art at the time of invention by

applicant to modify the devices of Yutaka and Peaslee so that the scheduler generates a plurality

of drawing instructions to be transferred from the first apparatus to the second apparatus by

combining an effect of a plurality of drawing instructions which affect a same area in a

predetermined short period of time on a frame buffer as suggested by Zhao because Zhao

suggests the advantage of increasing effect bus bandwidth (Col. 2, lines 43-59).

22.   With regard to Claim 16, Claim 16 is similar in scope to Claim 15, and therefore is

rejected under the same rationale.

23.   With regard to Claim 17, Claim 17 is similar in scope to Claim 15, and therefore is

rejected under the same rationale.

24.   Claims 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yutaka (US

5,664,163) in view of Peaslee (US 5,265,203), further in view of Pike (US 4,555,775).

25.   With regard to Claim 18, Yutaka and Peaslee are relied upon for the teachings as

discussed above relative to Claim 1.

However, Yutaka and Peaslee do not teach that the communication controller transfers

only updated areas on a frame memory in a form of drawing commands to the second apparatus.

However, Pike describes transferring a new layer on a frame memory in a form of drawing

commands to the second apparatus (25, Figure 1) (Col. 11, line 38-Col. 12, line 11; Col. 3, lines

40-47). The new layer is only transferred if it is unique (Col. 12, lines 6-8), meaning that only

updated areas on a frame memory in a form of drawing commands are transferred to the second

apparatus.

It would have been obvious to one of ordinary skill in this art at the time of invention by

applicant to modify the devices of Yutaka and Peaslee so that the communication controller

transfers only updated areas on a frame memory in a form of drawing commands to the second

apparatus as suggested by Pike because Pike suggests the advantage of avoiding any unneeded

processing (Col. 11, lines 21-25), which inherently making the processing more efficient.

26.   With regard to Claim 19, Claim 19 is similar in scope to Claim 18, and therefore is

rejected under the same rationale.

27.   With regard to Claim 20, Claim 20 is similar in scope to Claim 18, and therefore is

rejected under the same rationale.

28.   Claims 21-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yutaka (US

5,664,163) in view of Peaslee (US 5,265,203), further in view of Epard (US005241625A).

29.   With regard to Claim 21, Yutaka and Peaslee are relied upon for the teachings as

discussed above relative to Claim 2.

However, Yutaka and Peaslee do not teach that the first apparatus includes a first drawing

engine and the second apparatus includes a second drawing engine. However, Epard describes

that the first apparatus (50, Figure 5A) includes a first drawing engine (55) and the second

apparatus (60) includes a second drawing engine (61) (Col. 48, lines 26-57).

It would have been obvious to one of ordinary skill in this art at the time of invention by

applicant to modify the devices of Yutaka and Peaslee to include a first drawing engine and the

second apparatus includes a second drawing engine as suggested by Epard because Epard

suggests that in order for the first apparatus to transfer image data to the second apparatus, the

first apparatus must have a drawing engine to first process the image data. In order for the

second apparatus to display this image data, it must also have a drawing engine (Col. 3, lines 5-

43; Col. 48, lines 26-57).

30.   With regard to Claim 22, Yutaka and Peaslee do not teach that the first apparatus and the

second apparatus include redundant drawing engines. However, Epard describes that the first

apparatus (50, Figure 5A) and the second apparatus (60) display the same information (Col. 3,

lines 5-43). Therefore, Epard describes that the first apparatus and the second apparatus include

redundant drawing engines (55, 61) because both drawing engines process the same information.

It would have been obvious to one of ordinary skill in this art at the time of invention by

applicant to modify the devices of Yutaka and Peaslee so that the first apparatus and the second

apparatus include redundant drawing engines as suggested by Epard because Epard suggests that

the second apparatus is to display the same image data as that of the first apparatus. Therefore,

the first apparatus and the second apparatus must include redundant drawing engines (Col. 3,

lines 5-43).

31.   With regard to Claim 23, Yutaka and Peaslee do not teach that the first apparatus

comprises a computer including a first drawing engine, and wherein the second apparatus

comprises a display apparatus including a second drawing engine. However, Epard describes

that the first apparatus (50, Figure 5A) comprises a computer including a first drawing engine

(55), and wherein the second apparatus (60) comprises a display apparatus (65) including a

second drawing engine (61) (Col. 3, lines 5-44; Col. 48, lines 26-57).

It would have been obvious to one of ordinary skill in this art at the time of invention by

applicant to modify the devices of Yutaka and Peaslee so that the first apparatus comprises a

computer including a first drawing engine, and wherein the second apparatus comprises a display

apparatus including a second drawing engine as suggested by Epard because Epard suggests that

the first apparatus must comprise a computer in order to process the image data, and the second

apparatus must comprise a display apparatus in order to display the information (Col. 3, lines 5-

44; Col. 48, lines 26-57).

32.   With regard to Claim 24, Yutaka and Peaslee do not teach that the first drawing engine

and the second drawing engine each include a dedicated frame memory unit. However, Epard

describes the first drawing engine (55, Figure 5A) and the second drawing engine (61) each

include a dedicated frame memory unit (57, 65; Col. 48, lines 26-57).

It would have been obvious to one of ordinary skill in this art at the time of invention by

applicant to modify the devices of Yutaka and Peaslee so that the first drawing engine and the

second drawing engine each include a dedicated frame memory unit as suggested by Epard

because Epard suggests that both the first drawing engine and the second drawing engine need a

dedicated frame memory unit to store image data that is processed by the drawing engines (Col. 48, lines 26-57).

33.   Claims 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yutaka (US 5,664,163) in view of Peaslee (US 5,265,203), further in view of Epard (US005241625A0), further in view of Nitta (US006392619B1).

Yutaka, Peaslee, and Epard are relied upon for the teachings as discussed above relative to Claim 21. Epard describes that the first drawing engine and the second drawing engine generate identical images, as discussed in the rejection for Claim 22.

However, Yutaka, Peaslee, and Epard do not teach that the first drawing engine and the second drawing engine generate identical images including a different timing due to a data transfer delay from the first apparatus to the second apparatus. However, Nitta describes the data transfer of images for which the same data is continuously transferred (Col. 9, lines 7-10), meaning that the first apparatus and the second apparatus generate identical images. Nitta describes a different timing due to a data transfer delay from the first apparatus to the second apparatus (Col. 10, lines 59-67).

It would have been obvious to one of ordinary skill in this art at the time of invention by applicant to modify the devices of Yutaka and Peaslee so that the first drawing engine and the second drawing engine generate identical images including a different timing due to a data transfer delay from the first apparatus to the second apparatus as suggested by Nitta because Nitta suggests that there is a data transfer delay from the first apparatus to the second apparatus,

so the data transfer delay must be accounted for with a different timing in order to have correct

timing (Col. 10, lines 59-67).

34.   The prior art made of record and not relied upon is considered pertinent to applicant's

disclosure.

Vegesna (US 5,640,588) teaches a scheduler (2, Figure 18) for merging a plurality of

transfer data in accordance with the mutual dependency of the instructions among themselves

(Col. 3, lines 12-37; Col. 23, lines 6-20). Vegesna also teaches that when there are data

dependencies between instructions, they cannot be issued simultaneously (Col. 33, lines 38-40),

and Vegesna suggests the advantage of achieving multiple launches and executions of the

instructions by merging the data in accordance with the mutual dependency of the instructions

among themselves (Col. 3, lines 12-37). Vegesna discloses both the apparatus and method (Col.

1, line 12). The details of the method for merging a plurality of transfer data in accordance with

the mutual dependency of the instructions among themselves are described in Col. 26, lines 4-62.

Applicant's amendment necessitated the new ground(s) of rejection presented in this

Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

MONTHS of the mailing date of this final action and the advisory action is not mailed until after

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the date of this

final action.

Conclusion

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Joni Hsu whose telephone number is 703-305-4418. The

examiner can normally be reached on M-F 8am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Matthew C. Bella can be reached on 703-308-6829. The fax phone number for the

organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JH
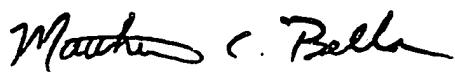
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